



Savannah District

Sustainable Design and Development Cost Template

**Cost Engineering Section
Savannah District**



Sustainable Design and Development Cost Template

Savannah District

- HQ,USACE asked Savannah District to perform a cost study using four Showcase projects to determine the additional design and construction costs/savings in achieving a Gold SPiRiT rating using Silver as a baseline. As part of the study, Savannah District was asked to develop a template for compiling these costs/savings.
- The four projects selected for this study were:

Barracks Complex, FY-03, LI-48707, Fort Benning, GA
16th MP Barracks Complex, FY-03, LI-41631, Fort Bragg, NC
Communications Facility, FY-02, LI-30629, Fort Gordon, GA
Range Road Barracks Complex, FY-03, LI-48674, Fort Campbell, KY
- Since the Communications Facility was the only awarded project and the three remaining projects would not be awarded until after May 1st, it was decided that the template would be developed first using the data from the Communications Facility.



SDD Cost Template Communications Facility

Facility Points Summary							Sustainable Costs/Savings					
1.0	Sustainable Sites (S)	Score	Max 20	Silver 12	Gold 18		Design 41,000	Incremental Construction (+/-) U/M	QTY	Unit Cost	157,500	Remarks
1.R1	Erosion, Sedimentation & Water Quality Control			[Required]			3,000				5,000	
1.C1	Site Selection											
	Avoid undesirable sites		1	1	1		0				0	Site meets criteria
	Site adjacencies/compatibility		1	1	1		0				0	Site meets criteria
1.C2	Installation/Base Redevelopment											
	Increase density		1	1	1		0				0	Site meets criteria
	Minimize new infrastructure		1	1	1		0				0	Site meets criteria
1.C3	Brownfield Redevelopment		1		0							
1.C4	Alternative Transportation											
	Proximity to transit system		1		0							
	Bike racks and showers		1		1		5,000				10,000	
	Proximity to alternative fuel station		1	1	1		0				0	Site meets criteria
	Parking capacity/carpool parking		1	1	1		2,000					
1.C5	Reduced Site Disturbance											
	Limited site disturbance/restoration		1		1		5,000				25,000	
	Reduced footprint		1	1	1		0				0	
1.C6	Stormwater Management											
	Stormwater runoff rate		1		1		5,000				50,000	
	Stormwater treatment		1		1		5,000				50,000	
1.C7	Landscape & Ext. Design to Reduce Heat Islands											
	Reduce site heat islands		1		1		2,500				15,000	
	Reduce roof heat islands		1	1	1		2,500				0	
1.C8	Light Pollution Reduction		1		1		2,000				2,500	
1.C9	Optimize Sites Features		1	1	1		5,000				0	
1.C10	Facility Impact											
	Cluster facilities		1	1	1		0				0	
	Mitigate offsite impacts		1	1	1		2,000				0	
1.C11	Site Ecology		1	1	1		2,000				0	



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2.0 Water Efficiency							Score	Max 5	Silver	Gold 0	0	U/M	QTY	0	Remarks
2.C1	Water Efficient Landscaping														
	High efficiency irrigation/recycle site water							1		0					
	No irrigation							1		0					
2.C2	Innovative Wastewater Technologies							1		0					
2.C3	Water Use Reduction														
	20% Water use reduction							1		0					
	30% Water use reduction							1		0					
3.0 Energy & Atmosphere							Score	Max 28	Silver	Gold 16	19,000	U/M	QTY	52,000	Remarks
3.R1	Fundamental Building Systems Commissioning							[Required]	R	R	3,000			20,000	
3.R2	Minimum Energy Performance							[Required]	R	R	5,000			10,000	
3.R3	CFC Reduction in HVAC&R Equipment							[Required]	R	R	1,000			2,000	
3.C1	Optimize Energy Performance							20		16	10,000			20,000	
3.C2	Renewable Energy							4		0					
	5% Onsite renewable energy - 1 point														
	10% onsite renewable energy - 2 points														
	15% onsite renewable energy - 3 points														
	20% onsite renewable energy - 4 points														
3.C3	Additional Commissioning							1		0					
3.C4	<<Deleted>>														
3.C5	Measurement and Verification							1		0					
3.C6	Green Power							1		0					
3.C7	Distributed Generation							1		0					



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4.0	Materials and Resources (M)	Score	Max 13	Silver 4	Gold 6	4,000	U/M	QTY	8,000	Remarks
4.R1	Storage and Collection of Recyclables		[Required]	R	R	500			3,000	
4.C1	Building Reuse		3		0					
4.C2	Construction Waste Management									
	Reduce construction waste		1		1	500			3,000	
	Reduce additional construction waste		1		0					
4.C3	Resource Reuse									
	Salvage/reused materials		1	1	1	500			0	
	Salvage/reused additional materials		1	1	1	500			0	
4.C4	Recycled Content									
	Materials recycled content		1	1	1	1,000			0	
	Additional materials recycled content		1		0					
4.C5	Local/Regional Materials									
	Regionally manufactured materials		1	1	1	500			0	
	Regionally extracted materials		1		0					
4.C6	Rapidly Renewable Materials		1		0					
4.C7	Certified Wood		1		1	500			2,000	



SDD Cost Template Communications Facility

5.0	Indoor Environmental Quality (IEQ) (Q)	Score	Max 17	Silver 7	Gold 12	21,000	U/M	QTY	46,500	Remarks
5.R1	Minimum IAQ Performance		[Required]	R	R	2,000			0	
5.R2	Environmental Tobacco Smoke (ETS) Control		[Required]	R	R	2,000			0	
5.C1	IAQ Monitoring		1		1	2,000			5,000	
5.C2	Increase Ventilation Effectiveness		1		0					
5.C3	Construction IAQ Management Plan									
	SMACNA/absorptive materials/filtration		1	1	1	1,000			0	
	Flushout/baseline IAQ test		1		1	500			2,500	
5.C4	Low-Emitting Materials									
	Adhesive/sealant VOC		1	1	1	500			1,000	
	Green Seal paints and coatings		1	1	1	500			1,000	
	CRI Green label carpet		1	1	1	500			1,000	
	No urea/formaldehyde resins		1	1	1	500			1,000	
5.C5	Indoor Chemical and Pollutant Source Control		1	1	1	500			0	
5.C6	Controllability of Systems									
	Operable window s/perimeter light controls		1		1	6,000			20,000	
	Non-perimeter controls		1		0					
5.C7	Thermal Comfort									
	ASHRAE thermal comfort standards		1	1	1	1,000			0	
	Temperature/humidity monitoring		1		0					
5.C8	Daylight and View s									
	75% daylighting		1		1	3,000			10,000	
	90% outdoor view		1		0					
5.C9	Acoustic Environmental/Noise Control		1		1	1,000			5,000	
5.C10	Facility In-use IAQ Management Plan		1		0					



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6.0		Facility Delivery Process (P)					Score	Max 7	Silver 7	Gold 7	15,000					U/M	QTY	20,000	Remarks	
6.C1	Holistic Delivery of Facility																			
	Team leader experience								1	1	1	0					0			
	Train team								1	1	1	0					5,000			
	Identify project goals								1	1	1	0					0			
	Charettes								1	1	1	5,000					5,000			
	Resolve tradeoffs								2	1	2	5,000					5,000			
	Document results								1	1	1	5,000					5,000			
7.0		Current Mission					Score	Max 6	Silver 4	Gold 6	3,000					U/M	QTY	1,000	Remarks	
7.C1	Operation and Maintenance																			
	Develop O&M plan								2		2	0					1,000			
	Durable materials								1	1	1	1,000					0			
7.C2	Soldier and Workforce Productivity and Retention																			
	Quality indoor environment								1	1	1	1,000					0			
	Functional work environment								1	1	1	500					0			
	Healthy work environment								1	1	1	500					0			
8.0		Current Mission					Score	Max 4	Silver 4	Gold 4	1,000					U/M	QTY	0	Remarks	
8.C1	Functional Life of Facility and Supporting Systems																			
	Determine functional life								1	1	1	500					0			
	Determine building life								1	1	1	500					0			
8.C2	Adaptation, Renew al and Future Uses																			
	Design for future uses								1	1	1	0					0			
	Minimize building size								1	1	1	0					0			



SDD Cost Template Communications Facility

New Cat Code	Primary Facility SDD Costs	LS					
	Sub Entries	U/M	QTY	Unit Cost	Cost		
New Cat Code	Support Facility SDD Costs	LS					
	Electric Svc	U/M	QTY	Unit Cost	Cost		
	Water Sewer Gas	U/M	QTY	Unit Cost	Cost		
	Steam/Chilled Water Distribution	U/M	QTY	Unit Cost	Cost		
	Paving Walks Curbs Gutters	U/M	QTY	Unit Cost	Cost		
	Storm Drainage	U/M	QTY	Unit Cost	Cost		
	Site Imp., Demo	U/M	QTY	Unit Cost	Cost		
	Subtotal -Total Estimate SDD Contract Cost				Cost		
	Contingency Percent (5%)				Cost		
	Subtotal				Cost		
	SIOH Percentage (5.7% or 6.5%)				Cost		
	Total SDD Cost Impact on PA				?????		
SPiRiT Sustainable Project Certification Levels						Silver	Gold
	SPiRiT Bronze	25 -34 points					
	SPiRiT Silver	35-49 points					
	SPiRiT Gold	50-74 points					
	SPiRiT Platinum	75-100 points					